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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
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TITLE

REPORT OF PINE BEETLE SURVEY
on the
WARM SPRINGS INDIAN RESERVATION, OREGON
Season of 1944

by

John M. Whiteside

Forest Insect Laboratory
Portland 5, Oregon
November 11, 1944

SUBJECT-

INDEX NO.-

U. S. Department of Agriculture
Bureau of Entomology and Plant Quarantine
Forest Insect Investigations

REPORT OF PINE BEETLE SURVEY
on the
WARM SPRINGS INDIAN RESERVATION, OREGON
Season of 1944

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November 11, 1944

SUMMARY OF RESULTS

1943 BARK BEETLE INFESTATION (Complete records)

Primary Insect: Western pine beetle in ponderosa pine

Estimated Gross Losses for 1943:

<u>No. of trees</u>	<u>Volume (Board Feet)</u>	<u>Board Feet Per Acre</u>	<u>Percent of Stand</u>
25,000	15,000,000	46	0.7

Trend: Noticeably lower than 1942

Classification: Endemic to light epidemic infestation

1944 BARK BEETLE INFESTATION (Incomplete records)

Primary insect: Same as in 1943

Probable Trend: Slight increase over 1943, probably 5 percent higher.

Recommendations: No control needed

REPORT OF PINE BEETLE SURVEY
on the
WARM SPRINGS INDIAN RESERVATION, OREGON
Season of 1944

During the period from September 25 to 29 inclusive, the writer, with the cooperative assistance of Forest Supervisor Welter and M. H. Davis, completed the 1944 survey of forest insect conditions on the Warm Springs Indian Reservation. Six 320-acre check plots were recruised and all ponderosa pines killed or windthrown since the 1943 survey were marked and recorded. In recent years 7 plots have been cruised on this Reservation but in 1944 1 plot - the Old Mill plot which was the first survey check plot established - was dropped because it had been practically cutover.

Losses in 1943.

Ponderosa pine mortality caused by insects in 1943 (Table 1) was noticeably lower on all check plots than it was in 1942. These losses averaged 102 trees per section, 97 board feet per acre and 0.9 percent of the stand volume. Although the trend of the infestation was downward from the 1942 level, it was again evident that insects, particularly the western pine beetle, are removing valuable timber at a fairly high annual rate. The mortality on the Miller Flat plot (#7) was higher than on any other plot in 1943 and is probably indicative of the moderate epidemic conditions existing in the fringe stands which this plot represents.

After the 1943 survey it was felt that the large number of windthrown trees, occurring as a result of the storms in the spring of that year, might lead to increased beetle populations and higher losses; however, such was not the case. The slightly increased 1944 losses, indicated below, were characteristic of current conditions on most of the check plots in Oregon.

On the basis of the check plot data, the total ponderosa pine mortality for the Reservation as a whole in 1943 has been estimated at 25,000 trees and 15,000,000 board feet - the equivalent of 51 trees per section, 46 board feet per acre and 0.7 percent of the stand.

Tentative losses in 1944.

At the time of the current survey, approximately 62 percent of the probable losses for the year were evident. The estimated losses for 1944 (Table 1) indicate that the trend has turned slightly upward again and that the average mortality on the six plots will be about 5 percent higher than in 1943.

Aside from the mortality caused by pine beetles in mature stands, slight but insignificant losses caused by the Oregon engraver beetle (*Ips oregoni*) were noted in some of the dense clumps of pine reproduction in the recently cutover stands. Damage of this nature usually subsides after a year but by thinning parts of these stagnated stands is often beneficial.

Recommendations. No control measures are necessary at this time and none are recommended.

Table 1. Results of the 1944 survey on the Warm Springs Indian Reservation - Ponderosa pine timber killed by insects on 320-acre check plots.

Check Plot		1943 Losses										1944 Losses					
Name and Location	No.	Acres	P. Pine		Trees	Gross Volume (BM)			Marked in 1944		Estimated Total Losses						
			Volume MBM	No.		Total	Per Acre	% of Stand	Ratio to 1942	Date of 1944 Cruise	No. Trees	Volume	Gross Volume (BM)				
													No.	Total	Per Acre	% of Stand	Ratio to 1943
Bear Springs T6S, R 11E, Sec. 19 S/2	5	320	3,360	49	27,460	86	.82	.53	9/25	26	21,630	40	32,000	100	.95	1.16	
Ryan's Road T9S, R 10E, Sec. 15 E/2	6	320	2,840	37	34,350	107	1.21	.88	9/26	41	20,660	60	35,000	109	1.23	1.02	
Miller Flat T9S, R 11E, Sec. 8 W/2	7	310	2,370	72	34,740	112	1.45	.79	9/26	44	20,700	70	35,000	113	1.48	1.01	
Twin Butte T10S, R 10E, Sec. 5 W/2	12	320	5,790	51	44,200	138	.76	.85	9/27	29	36,800	50	50,000	156	.86	1.13	
Metolius Bench T10S, R 11E, Sec. 32 W/2	14	320	4,840	66	30,580	96	.63	.96	9/29	39	20,090	60	28,000	87	.58	.92	
Tenino Burn T10S, R 11E, Sec. 4 S/2	20	300	1,550	31	12,420	41	.80	.38	9/28	25	8,380	40	12,000	40	.77	.97	
Total 6 Plots		1890	20,750	306	183,750	97	.89	.73		204	128,260	320	192,000	102	.92	1.05	